

Estimate of the norm of the Lagrange interpolation operator in a multidimensional Sobolev space

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Abstract

We obtain an estimate of the norm of the Lagrange interpolation operator in a multidimensional Sobolev space. It is shown that, under a suitable choice of the sequence of multi-indices, interpolation polynomials converge to the interpolated function and their rate of convergence is of the order of the best approximation of this function. © Nauka/Interperiodica 2007.

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Keywords

Best approximation, Hilbert space, Interpolation polynomial, Lagrange interpolation operator, Rate of convergence, Riemann zeta function, Sobolev space